# ERRATA
## to Hartkemeyer, *Studies in the Linguistic Sciences* 28:1.221-34

The editors greatly regret that, through an unfortunate font-change, certain phonetic/phonological symbols were improperly reproduced in Dale Hartkemeyer's review article. Please make the following changes:

® > ə

p. 222, lines 10, 11, 14, 31

[Ò], /Ò/ > [ʎ], /ʎ/

p. 226, lines 1, 2, 28
p. 227, lines 18, 22, 26, 27, 43
p. 228, lines 1, 6, 11, 12, 13, 16, 18, 19, 20, 22, 25, 30, 34, 35, 36, 37, 38, 39, 43, 44
p. 229, lines 3, 26, 30, 43, 44
p. 230, line 16

/-c/, [-c] > /č/, [č]

p. 221, lines 11, 7, 6 fr. below
p. 226, lines 28, 32
p. 227, lines 18, 19, 26
p. 228, lines 6, 25, 45
p. 234, line 19

/-s/, [-s] > /š/, [š]

p. 225, lines 8,9, 11
p. 226, line 32

/©/, [©] > /ʒ/, [ʒ]

p. 227, line 27
p. 228, lines 13, 21, 23

[i] > [ɸ]

p. 228, lines 40, 43

/‡ɾ/ > /r̃/

p. 230, lines 15, 24

/°n/ > /ŋn/

p. 232, line 7 from below

/ø/ > /ɔ/

p. 233, line 24

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## REVIEW ARTICLE

**Kenneth J. Wireback: *The Role of Phonological Structure in Sound Change from Latin to Spanish and Portuguese.* (American University Studies, Series II, Romance Languages & Literature, 215.) New York: Peter Lang, 1997. Pp. xii + 139. $33.95.**

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As the title clearly discloses, the concern in this book is with an investigation into, and illustration of, the role played by phonological structure in the evolution from Latin of the two chief representatives of Hispano-Romance, Spanish and Portuguese. W's underlying premise throughout is that 'the role of phonological structure in sound change is primarily responsive rather than causative' (p. 6). In other words, the causes of diachronic sound shifts are to be sought and identified originally at the phonetic surface level, and shifts at the phonemic level and reorganization of the phonology (more specifically, 'the abstract underlying phonological representations that are stored in the lexicon plus the phonological rules that link the underlying representations to their surface phonetic form' pp. 6-7) constitute essentially subsequent responses to phonetic-level changes and altered relationships.

In this context, it may perhaps be useful to lay out here W's conception of sound change as a three-stage process (p. ix):

(1) '... a phonological rule is added to the system as a representation of consistent phonetic mutation in some direction.'

(2) '... this rule may be extended to new phonological environments and segments.'

(3) '... the rule may be lost with the subsequent restructuring of a phonological representation.'

For example, with regard to (1), the high palatal vowel /i/ often phonetically conditions affrication of a preceding /k/ > /-c/. When a listener is no longer able to perceive the context for this change, i.e., immediately before /i/, s/he will be unable to factor out the phonetic palatalization and arrive at the abstract, underlying /k/, and so, in assigning a lexical representation to the sound heard, will take the phonetic [-c] to be the phoneme /-c/ rather than the original /k/. In W's conception, this response of 'restructuring' /k/ to /-c/ simply stems from the speaker's perception of the surface output. In connection with (2) above, W maintains that the speaker's faulty perception, when acquiring a phonological rule, must be behind the extension (through generalization) of a rule to new inputs. This can occur when a speaker fails to pick up accurately on the original specific context, mistaking it for a more general environment. Finally, with reference to (3), when a

phonetically conditioned allophone of a segment in a particular environment is 'restructured' as an independent phoneme, it may subsequently become difficult or impossible for a listener to recover either the operation of the earlier rule conditioning the allophone, or that rule's input, in such a way that, for all intents and purposes, the rule has been lost, or in the terminology of Hock (1986), has undergone atrophy. But importantly, in all three stages of the sound change process, W regards the addition of or changes in the phonological rule as arising in reaction or response to a phonetic state of affairs already obtaining on the surface.

W cites an example, originally discussed in Hock (1986:266-7), of rule reordering in German, involving final devoicing and ®-loss. The earlier standard German rule ordering had final devoicing before (optional) ®-loss and so derived surface [ta:k] sg. nom. and [ta:g] sg. dat. from /tag/ and /tage/ respectively. However, a later development in German makes [ta:k] acceptable for many speakers as both the sg. nom. and dat. form. What this means is that for these speakers, ®-loss has been reordered before final devoicing. W draws on this example (pp. 2-3) to demonstrate his point that the structural changes in the phonology (here, the rule reordering which brings about the extension of the final devoicing rule to additional segments not before subject to it) 'are responses to perceived analogical relationships on the surface'. That is, German speakers have an abiding intuition that all final obstruents should be voiceless, and thus the surface sg. dat. [ta:g], even though it derives from underlying /tage/, should also conform to the final-obstruent devoicing. Thus, the extension of devoicing to forms showing a surface violation of a rule, in a movement which is quite evidently in the direction of enhancing rule transparency in surface forms, forces the reordering of the two rules. W is emphatic here that it is not some internal phonological structure motivation which occasions the rule reordering, and just coincidentally the subsequent extension of final devoicing to surface forms violating this rule. Thus, the increased surface regularity and the structure of the output appear to be what is really driving changes, not some internal and abstract phonological structure or principle. Again, in W's view the role of the latter is to respond to those changes arising on the phonetic surface (in the present example, by reordering ®-loss before final devoicing, so as to bring about greater surface regularity in the application of final devoicing, a rule of considerable perceptual salience for speakers of German).

In like fashion, W seriously questions a couple of other examples of accounts of diachronic changes (i.e.., appeals to the Obligatory Contour Principle and the notion of push chains) that are founded on what he considers the misguided notion, tempting though it is, of 'attribut[ing] causality to principles of structural organization' (p. 4). Attempts to make abstract phonological principles (such as the OCP, with its avoidance of adjacent identical segments on a melody tier, or the chain shift, viewed as a response to an impending phonemic merger), he claims, are uniformly fraught with the paradox of having to be at the same time sufficiently strong and sufficiently weak. In the case of diachronic accounts relying on the OCP (e.g., Schane 1989) and other such phonological principles, he observes that 'the principle in question must be weak enough to allow for exceptions to it, but strong enough to cause language change by attempting to elimi-

nate exceptions to it' (p. 5). According to the push-chain notion, the threat of merger and loss of phonological contrasts must be of such gravity that the response of the phonological system is a chain reaction among phonemes, and yet phonemic mergers are by no means rare occurrences. To rather striking effect, W wonders aloud: 'if push-chain theory is weak enough in terms of its inability to apply when merger does occur, then why in other cases is it employed to prevent merger at all costs?' (p. 6). The solution to the paradoxes posed, W maintains, is to recognize that constructs pertaining to the domain of the phonology (such as the OCP, push chains, rule ordering) are clearly not strong enough to block certain violations, and therefore are unlikely to be the prime movers, the chief causation, behind sound changes. Even while granting that 'principles of phonological organization' can nevertheless INFLUENCE sound change, W hastens to bring the reader back to his main thesis:

> phonological structure adapts to phonetic developments on the surface rather than constraining or blocking them due to purely phonemic principles of organization, perhaps because speaker awareness is attuned to the phonetic surface rather than the more abstract phonological level.

Thus, even though W, in essential agreement with Labov (1994), does acknowledge the possibility that 'teleological factors' like concern about avoiding phonemic-contrast neutralization may have some role to play in diachronic changes, he insists on the view that sound change *per se* is, in the main, mechanical, operating outside of and independently of some systemic preoccupation regarding the preservation of phonemic contrasts.

W recognizes the complexity of all linguistic change, including sound change, admitting frankly that any one theoretical focus cannot possibly hope to provide an all-encompassing picture of this complexity, but he offers us in the three central chapters of the book his examination, from the theoretical perspective outlined here, of three selected sound changes that developed in the transition from Latin to Spanish and Portuguese — (1) consonant + yod sequences and their various outcomes, (2) palatalization of /pl/, /kl/, and /fl/ clusters, and (3) evolution toward the 'strong word boundary' and 'strength pattern', and the so-called 'initial sonorant strengthening' — in the hope that his investigation, which is indeed noteworthy for its detail and thoroughness, may furnish scholars of diachronic Hispano-Romance with valuable new insights into some mechanics of sound change not previously highlighted, or insufficiently highlighted, in the literature.

In each of the three core chapters (2, 3, and 4), W presents a set of diachronic data for Spanish and Portuguese illustrative of the sound change under discussion and then proceeds to a detailed consideration of these data — rich in references to the work of previous researchers — from his perspective on sound change and the responsive-rather-than-causative role that 'phonological structure' plays within that process of sound change. Space here does not allow an elaborate report of many of the details presented; instead, I shall limit myself to

identifying a number of key points from each of the core chapters and attempt to show briefly how W argues for his theoretical perspective on the basis of his account of the data.

In chapter 2, 'The interaction of consonants and yod in Hispano-Romance: metathesis, epenthesis, and palatalization', W considers data of this sort:

| | | | |
|---|---|---|---|
| CASEU | > | Sp. (caiso) > queso, Pg. queijo | 'cheese' |
| AREA | > | Sp. (aira) > era, Pg. eira | 'threshing floor' |
| NOVIU | > | Sp. novio, Pg. noivo | 'boyfriend' |
| APIU | > | Sp. apio, Pg. aipo | 'celery' |
| SAPIAT | > | Sp. (saipa >) sepa, Pg. saiba | (subj.) 's/he knows' |

and one of his key conclusions drawn in support of his thesis is that even though such transpositions of the yod within the string (more frequent in Portuguese than in Spanish) most likely originated in Hispano-Romance sporadically in configurations of coronal C + yod through the misiming of individual features (e.g., BASIU > /basjo/ > /baʲsʲo/ > /bajso/ ... > Sp. *beso* 'kiss'; CORIU > /korjo/ > /koʲrʲo/ > /kojro/ Pg. *coiro* 'leather'), along the lines of previous analyses by Hock (1985, 1986) and Wanner (1989) with his notion of the 'supersegment', extension of a similar 'glide epenthesis' to additional lexical items nevertheless may well have proceeded more in the nature of a phonological process of segment insertion. W examines in detail the issue of how such a process that began on the phonetic surface as sporadic articulatory mistimings would have come to achieve its later phonological regularity, and he concludes again, in accord with his overall perspective, that it was a case of the phonology responding to and regularizing developments which were already occurring on the phonetic level. Appealing to particular feature-geometrical representations and explaining details of the palatalizations and glide transpositions evident in the above examples involving coronal Cs, in terms of leftward spreading of the Coronal articulator under the /s/ or /r/, and of spreading of the [+high] feature under the Dorsal node of the palatal glide (yod) onto the preceding V (yielding, e.g., [baʲsjo]), W suggests that there was an adjacency restriction on Coronal spreading in Hispano-Romance, meaning that labial + yod sequences like those in NOVIU, APIU, and SAPIAT did not undergo Coronal spreading (i.e., palatalization and glide epenthesis), since in W's feature-geometrical representations labials lack a Coronal articulator that could spread onto the preceding V. [It might be remarked here in passing that the approach suggested in more recent work like that of Browman & Goldstein (1991) in terms of articulatory gestures and their overlaps would seem to offer a more explanatory and promising conceptual fit for the phenomena under discussion here than the highly abstract feature-geometrical framework adopted by W] The leftward yod transpositions we note in items with labials, like Pg. *noivo, aipo,* and Sp./Pg. *sepa, saiba,* W therefore attributes not to feature spreading, but to straightforward 'structural metathesis', i.e., whole-segment inversion between the yod and the preceding labial consonant, so as to achieve what W believes was a prevailing preference in Hispano-Romance (stronger in Portuguese than in Spanish) for a (C)VG syllable shape over a (C)GV one (making, e.g., *ai.po* in Portuguese preferred over *a.pio*). A good portion of the chapter is devoted to moti-

vating and clarifying this distinction between the two types of yod transpositions.

W also hypothesizes that in the case of the evolution of the sequences /s:j/ (as in QUASSIARE > OSp. *quexar*, Pg. *queixar*) and /skj/ (as in FASCIA > Pg. *faixa*), we have instances of palatalization with subsequent anticipatory epenthesis of an off-glide. In other words, the postconsonantal yods in the original Latin forms were absorbed in the early palatalization process, and the yods that appear before the palatal /-s/ in the later Romance forms (mostly in Portuguese) arose by epenthesis in anticipation of the following palatal C (i.e., /s:j/, /skj/ > [-s] > [j-s]), a process most probably spurred along analogically by a number of already existing lexical items showing [j-s] which had derived from original Lat. /ks/ (e.g., MATAXA > OSp. (*madaixa* >) *madexa*, Pg. *madeixa* 'skein'; TAXO > OSp. (*taixo* >) *texo*, Pg. *teixo* 'yew').

W likewise addresses the question of just how the epentheses or metatheses evident in the data acquired regularity in early Hispano-Romance. In this regard he outlines two possible scenarios: 1) Through CG mistimings, a supersegment arises (e.g., /sj/ > [ʃ]), gradually being extended to new inputs throughout the lexicon, and over time speakers' perception plays a role in the regularization, as they begin to perceive the supersegment as a GC sequence in more and more of the lexical inputs containing it. Under this scenario, the regularization process of glide epenthesis would involve intermediate forms in all cases. Or, alternatively: 2) Quite early on, given its instability, the supersegment is perceived and reanalyzed as a GC sequence, even before the mistiming process and resulting supersegment status have had a chance to make their way through the lexicon to achieve regularity, and so the emergence of a clear GC sequence in a FEW lexical items may bring on a more sudden metathesis (rather than glide epenthesis) in other lexical items containing the relevant CG sequences. W speculates that both of these scenarios are likely to have been played out in the early days of the development of Romance languages, and he notes that evidence of lexical variation at early stages (e.g., CATENATU > *cadnado, candado, cannado [ñ], calnado*, examples from Wanner 1989 indicating a likely supersegment [ᵈnᵈ]) seems to suggest differing outcomes from a mistiming process, and presumably regularization at the supersegment stage. On the other hand, W considers that for C + yod sequences, an early reanalysis to GC sequences was probable, so that the inversion observed in labial + yod sequences was implemented via metathesis. Here again, W wants to stress that at its inception glide inversion was essentially a phonetic phenomenon, growing out of articulatory mistimings, but that over time the increasing frequency of and preference for a (C)VG syllable shape gave rise to purely phonological rules of complete-segment inversion, so that what started out as a sporadic phonetic phenomenon came to take on a certain phonological regularity, once the phonological system began to respond to the initial phonetic developments and extend a pattern.

In chapter 3, 'The development of the Latin and Romance obstruent + lateral clusters from Latin to Spanish and Portuguese', W examines Spanish and Portuguese data involving the palatalization of ROMANCE clusters like those in:

| | | | |
|---|---|---|---|
| OC'LU | > | OSp. o[Ò]o, Pg. olho | 'eye' |
| COAG'LU | > | OSp. cua[Ò]o, Pg. coalho | 'curds' |
| CONCH'LA | > | Sp./Pg. concha | 'shell' |
| UNG'LA | > | Sp. uña, Pg. unha | 'fingernail' |

as well as of the similar LATIN clusters like those in:

| | | | |
|---|---|---|---|
| CLAVE | > | Sp. llave, Pg. chave | 'key' |
| PLORARE | > | Sp. llorar, Pg. chorar | 'to cry' |
| FLAMMA | > | Sp. llama, Pg. chama | 'flame' |
| AMPLU | > | Sp./Pg. ancho | 'wide' |
| INFLARE | > | Sp. hinchar, Pg. inchar | 'to swell' |

and cases of Latin clusters in which palatalization has apparently failed to occur, as in:

| | | | |
|---|---|---|---|
| CLAVU | > | Sp. clavo, Pg. cravo | 'nail' |
| PLATEA | > | Sp. plaza, Pg. praça | 'town square' |
| FLORE | > | Sp./Pg. flor | 'flower' |

Surveying broadly the Romance data, both Eastern and Western, regarding the fate of these obstruent + lateral clusters, W finds that Italian shows regular palatalization of all such clusters (both Romance and Latin), Rumanian shows palatalization only of velar clusters (both Romance and Latin), Spanish and Portuguese show regular palatalization of the Romance clusters and irregular (i.e., not universal or consistent) palatalization of the Latin voiceless-obstruent clusters, whereas Gallo-Romance dialects like French and Catalan show palatalization only of intervocalic Romance clusters. These comparisons lead him to pose a few interesting questions which turn out to have rather complicated answers, regarding the relative irregularity of the palatalization sound change in Hispano-Romance, when compared with its highly regular outcome observed in Italian; the importance of the cluster's position in the word in determining its outcome in Hispano-Romance (e.g., in Spanish we get /Ò/ word-initially (*llamar*) and /-c/ word-medially (*hinchar*), but in Portuguese there is no positional differentiation in the outcomes: *chamar, inchar*); and the factor of obstruent voicing in the sound change. [It should be noted here that in Old Portuguese the digraph *ch* indicated the sound [-c], but the phoneme has since been deaffricated to [-s].]

In considering the numerous exceptions to cluster palatalization (like *clavo/cravo, flor*, etc.) that we find in Hispano-Romance, W cites a number of factors identified by previous scholars as possible explanations for the irregularity, such as learned influence, position of primary stress in the word, avoidance of the threat of homonymic clash (e.g., CLAVE > *llave, chave* vs. CLAVU > *clavo. cravo*) or phonetic clash, whereby palatalization of the cluster is blocked when two palatal Cs within a single word would result (e.g., PLANGERE > Sp. *plañir*, not **llañir*), and the development of doublets like *plegar : llegar* in response to a perceived need to resolve cases of polysemy. W is particularly struck by the contrast in the palatalization developments observed between Italian and Hispano-Romance, and he expresses curiosity as to why none of these various fac-

tors operated to mar the regularity of the sound change in Italian. What was different, he wonders, about the spread and evolution of the sound change in the Iberian Peninsula that caused these various factors to interfere so powerfully with the regular extension of palatalization to all the possible contexts that might have undergone the process? He expounds and considers some competing views from the literature on the nature of the spread of the palatalization change, dismissing hypotheses claiming that it actually was regular early on, but that its effects then became masked in many cases by later restoration of the original clusters, perhaps under Gallo-Romance influence, and he decides instead to explore the other possibility, viz. that 'palatalization of the primary Latin clusters never reached full regularity in those Gallo- and Hispano-Romance varieties that show preservation of the original, unpalatalized cluster' (p. 90, fn 4).

Given this premise, he sets out as his goals for the chapter to determine what aspect of the palatalization rule made for its differences in rate of diffusion across the lexicons in Spanish/Portuguese vs. Italian, a condition presumably working along with the language-specific factors cited above (avoidance of homonymic clash, etc.); and the clarification of the differing outcomes, depending on word position and phonetic environment, of the original clusters in Sp. (/Ò/ and /-c/) and in Pg. (/-c/ only). W assumes that throughout Romania the first step in the evolution of the obstruent + lateral clusters was the palatalization of the lateral, so that in the case of Hispano-Romance, there was an early stage at which the clusters were /pÒ/, /fÒ/, /kÒ/. W rejects some previous analyses of Hispano-Romance that have given a fundamentally differing treatment respectively to Latin clusters like *kl, pl, fl* vs. the Romance clusters *k'l, g'l* (resulting from syncope, often of diminutives), motivated by the different reflexes of each type of cluster: e.g., in Spanish for Latin clusters: /Ò/ word-initially and /-c/ medially; for Romance clusters (which were by definition medial): /Ò/ intervocalically, later > /©/ in Old Spanish.

One line of analysis of the Romance clusters has attempted to regard their development as parallel to that of Lat. /kt/ and /ks/ sequences, involving weakening and vocalization of coda velars to yod, often with subsequent palatalization of the following C (e.g., AXE [ak.se] > *[ajse] > Sp. *eje,* Pg. *eixo*). This line of analysis, as W very rightly points out, relies for its success on the questionable assumption of a cross-linguistically unmotivated syllable structure like *oc.lu* ( < OCULU). There is indeed no good reason why the /k/ or /g/ of such clusters should not have been recruited automatically into the onset of the following syllable, given that /kl/ and /gl/, unlike /kt/ and /ks/, were perfectly acceptable onsets in Latin. The key to a unified account for the differing outcomes of Romance and Latin clusters by the same mechanisms, he believes, is the phenomenon of obstruent lenition and the recognition that word-initial position came to be regarded as predominantly strong (i.e., immune to the kind of lenition found in medial, intervocalic positions). Thus, after the palatalization of the lateral in both the Romance and the Latin clusters, there was what he terms a 'heavy onset cluster' (e.g., [kÒ]), simplification of which was a natural tendency; it is here that lenition played a crucial role. In weak (medial, intervocalic) contexts, /k/ weakened to /g/ thus merging with original /g/, then spirantized to /ɣ/ and was eventually lost alto-

gether (thus, /k'l, kl/ > /kò/ > /gò/ >/ɣò/ > /ò/). By contrast, in strong contexts (word-initially or postconsonantally) the left word boundary or the preceding C served to support the obstruent, so simplification of the cluster would be expected to proceed via weakening of the palatal lateral, which became delateralized to the glide /j/, with subsequent fusion of the glide with the obstruent to yield /-c/ (thus in the strong context, /k'l, kl/ > /kò/ > /kj/ > /-c/). Portuguese, W claims, illustrates these two different contextually-conditioned lines of development precisely: OC'LU > *olho*, CLAVE > *chave*, and CONCH'LA > *concha*.

Castilian, however, poses a difficulty for a unified approach to the palatalization of both Lat. /kl/, /pl/, /fl/ and Rom. /k'l/, /g'l/, for there we find different outcomes for these two types of clusters: the former proceed to /ò/ and remain there (CLAVE > *llave*), while the latter also proceed to /ò/ but then go further by assibilation to OSp. /©/ (OVIC'LA > **ove[ò]a* > *ove[©]a*). W contends that obstruent lenition can again account for the outcome difference here. Since the Romance clusters were always word-medial, lenition applied much more regularly to their obstruents, quickly eroding them down to /ò/. However, the word-initial Latin clusters, because they were in strong contexts, were unable to lenite so quickly to /ò/. In the meantime, once the medial Romance clusters had lenited to /ò/, they soon diverged from the Latin clusters and merged with the /ò/ deriving from earlier /lj/ (e.g., foòa < folja < FOLIA), undergoing delateralization and assibilation to /©/, while the original word-initial Latin clusters still remained at the heavy-cluster stage, unable to follow directly the medial /ò/ (from the Romance clusters) on its way to /©/.

This approach, however, poses another question for W, i.e., why in Spanish do we find the word-initial Latin clusters resulting in /ò/, rather than the fortis /-c/, as we find in Portuguese and as we would really expect to find, in W's view, given that word-initial position is a strong one that tends to preserve obstruent articulations. He is committed to the strength-pattern analysis (as becomes abundantly clear in chapter 4) and believes that it warrants acceptance, even though this necessitates a further explanation for the anomalous Castilian word-initial /ò/, which he then proceeds to offer, drawing largely on the analysis in Torreblanca (1990). On the basis of the unidirectionality of certain 13th-century scribal errors, he concludes that the scenario for the development of the word-initial Latin clusters was roughly along the following lines. First, in the cluster /kò/ the velar obstruent palatalized in contact with the following /ò/ causing a more forward articulation of the velar, *[tò] (along the lines of the generally assumed development of /kj/ > /tj/), but since *[tò] was a difficult cluster articulatorily, it continued further to the even more fronted articulation [pò]. At this stage, there would have been just two remaining reflexes of the three original clusters: /pò/ and /fò/. After the weakening process /p/ > [ï] > [h] > ∅ posited by Torreblanca for these clusters (which runs in part quite parallel to that involved in the eventual loss of word-initial /f/ in Castilian), there is a merger of the two reflexes of the earlier clusters, and then aspiration, and eventual loss of the earlier obstruent: [ïò] > [hò] > [ò]. This, then, is W's answer to the question of why Spanish opted for /ò/ instead of the fortis /-c/ word-initially. As he explains it (p. 78),

> Thus, the weakening of /f/ as an aspiration rule played a central role in the loss of the obstruent in the initial clusters in Spanish, as it effectively ties initial /pÒ/ and /fÒ/ into a weakening process that in Iberian terms is strictly a Spanish (Castilian) phenomenon.

W proposes that the palatalization of the obstruent + lateral clusters began with the intervocalic Romance clusters *k'l, g'l*, and then the rule was gradually extended in certain speech areas to more contexts (Gallo-Romance, exceptionally, failing to extend it at all). Italian extended the rule with the greatest regularity, so that obstruent + lateral clusters, voiceless and voiced, in all environments eventually underwent the rule. W hypothesizes that something, however, arose in the development of Hispano-Romance which occasioned the less regular application of palatalization.

As a preliminary to getting at what this factor might be, W first reviews the distinction between two types of sound change elucidated in Labov (1981): so-called 'Neogrammarian-style changes' and diffusing changes. The former are characterized by phonetic conditioning, absence of lexical exceptions, and unawareness on the part of speakers that the change is underway; the latter are characterized by lexical exceptions and a high degree of lexical variation, as well as awareness of the change and observability by speakers. W is convinced that cluster palatalization in Hisp.-Romance began as a Neogrammarian change but then, as a result of some development, shifted into a diffusing mode of propagation. What was this factor, this development that spelled the end of the Neogrammarian stage of the sound change and opened the way to the less regular, diffusing phase of rule extension? Essentially, it was the relatively quick voicing, lenition, and loss of the obstruent in the intervocalic /k'l/, /g'l/ clusters, leading to the restructuring of these clusters as /Ò/, vs. the quite different outcome for postconsonantal /k'l/, /g'l/ clusters, where the onset obstruent was more protected from lenition, and thus preserved longer. After the intervocalic Romance clusters had undergone palatalization and the reflexes had been restructured to /Ò/, the rule had little input left, leading to rule atrophy (as per Hock 1986). It was at this point, W believes, that cluster palatalization ceased to be strictly rule-governed and became a diffusing type of change. He discusses in considerable detail how the original conditions on the rule, including stress position, became reinterpreted and more generalized during this diffusing, lexically irregular phase of 'rule extension' when palatalization came to affect now the Latin clusters. It is here too that those factors mentioned earlier, such as homonymic clash avoidance, etc., came to enjoy a certain influence, since now that speakers were quite openly aware and observant of the diffusing change underway, these factors that presuppose conscious efforts on the part of speakers could come into full play to impede the diffusion of palatalized variants.

This chapter ties in with W's overriding main thesis regarding the role of phonological structure, in the sense that the phonological developments involving the intervocalic Romance clusters (the split-off of /Ò/ and the restructuring of the remaining postconsonantal reflexes as /CkÒ/, /CgÒ/) brought about a state of affairs which interrupted what had been a Neogrammarian type of sound change

and opened the way for other 'conscious' factors like homonymic clash avoidance, polysemy resolution, etc. to interfere with the regular extension of the palatalization rule to new contexts, unlike the situation of highly regular rule extension we find in Italian.

In chapter 4, 'Lenition and the strong word boundary in Hispano-Romance', W introduces the topic by noting that the lenition observed in Spanish and Portuguese encompasses four distinct processes (viz. degemination, voicing of voiceless obstruents, spirantization of simple voiced obstruents, and deletion, usually of the voiced spirants [β], [∂], [γ]) and that the lenition of intervocalic word-medial obstruents, simple and geminate, set up in the Iberian speech area a strength pattern, according to which word-initial position is regarded as 'strong' (i.e., obstruents there do not weaken), and medial, intervocalic position is 'weak' (i.e., lenition takes place there); furthermore, this strength pattern then plays some kind of role in the development of sonorant strengthening, so that throughout Hispano-Romance word-initial /r/ > /‡r/; in Catalan, Aragonese, and Leonese word-initial /l/ > /Ò/; and in Leonese word-initial /n/ > /ñ/.

W goes on then to identify two ways in which the relationship linking the strength pattern, voicing, and medial geminates is problematic: (1) Although in modern Spanish and Portuguese word-initial /p,t,k/ are consistently unvoiced, the general assumption among scholars is that at an early stage of Hispano-Romance, these initial Cs also were subject to lenition when they were intervocalic due to a preceding V-final word; thus, UNUM TEMPUS would have given *un tempos* pronounced [un#tɛmpos], whereas ILLA TERRA > *la terra* would have been [la#dɛ‡ra]. The problem with this analysis, W points out, is that in allowing for a stage at which voicing of word-initial /p,t,k/ occurred as regularly as it did in word-medial (weak) position, we run counter to the notion of a developing strength pattern: speakers could not become aware of the 'strength' of word-initial position if lenition occurred there as well as word-medially. Thus, W argues, there had to be a stage when the allophonic voicing of the word-medial obstruents was NOT operating in tandem with a voicing of obstruents word-initially. (2) The other problematic issue is how to explain just how the obstruent strength pattern became extended to the sonorants /r,l,n/, since with obstruents the pattern developed in terms of a contrast in [voice] (voiceless word-initially, voiced word-medially), but for sonorants both the strong and weak variants are voiced. Surely the development of strengthened variants of the sonorants out of earlier Latin intervocalic geminates like *-rr, -ll-, -nn-* had a role to play in the actual form that the strengthened word-initial sonorants would eventually take, but there is another fundamental difficulty in trying to unify the strength patterns of obstruents and sonorants, for with the obstruents there was only a weakening word-medially and no actual strengthening, while for sonorants there was only a strengthening word-initially and no actual weakening in any position. Nonetheless, W feels intuitively that there must be a real and identifiable connection between the two different strength patterns in Hispano-Romance. The attempt at a resolution, then, of these several core issues constitutes W's aim here and the gist of this chapter.

The author describes certain modern-day Italian and Rhaeto-Romance dialects which have the lenition-type voicing of obstruents in word-initial position and considers in detail the various possible scenarios regarding the development/disappearance of this kind of lenition process throughout Romania, and the reasons for such. Drawing on work by Walsh (1991), he concludes that the rule voicing /p,t,k/ word-medially was most probably lost in Hispano-Romance (perhaps through the phonologization of the word-medial voiced allophones) before it had a chance to become extended widely, if at all, in word-initial position. This way, as W explains (p. 112),

> the obstruent strength pattern could survive intact from the beginning of voicing in medial position until the reassignment of the voiced allophones of /p,t,k/ to /b,d,g/, and it was during this period that the pattern was extended to the sonorants.

In trying to come to an understanding of how the strength pattern that arose from the obstruents came to apply to sonorants, a development motivated presumably by the aim of establishing a more general pattern symmetry within the grammar, as Hock (1986) proposes, W takes up a suggestion by Hall (1964) to the effect that Western Romance may at one stage have shared with Italo-Romance the process called syntactic doubling (s.d.), involving both obstruents and sonorants (e.g., *ad padre* [ap#padre] 'to father', *et rabia* [er#rabja] 'and anger'). W notes, however, that Hall reported that he estimated the frequency of s.d. at only about 19% and therefore dismissed it as insufficient to lead to the generalization of the strengthened forms *rr-, ll-, nn-* to word-initial cases in Hispano-Romance. W, however, believes there is a way to salvage this approach, which he considers quite promising, in effect by taking into account what might have been a higher PERCEIVED frequency of s.d. in early Hispano-Romance. One way this might have operated, he claims, relates to the identification of word-initial voiceless and word-medial geminate obstruents; after medial single /p,t,k/ had voiced to [b,d,g], initial /p,t,k/ and medial /pp,tt,kk/ were both left bearing the feature [-voice]. There must have been a stage, he argues, when postvocalic word-initial [p,t,k] as well as initial doubled [pp,tt,kk] (from cases like [ap#padre]) were both regarded as strong (exponents of strength being length and lack of voicing); in this way strong initial /p,t,k/ may have come to be perceived as long, even in postvocalic contexts like [meo#padre], thus enhancing the perceptual frequency of the phenomenon. A parallel development of doubling is proposed for the sonorants: through analogy with the strong obstruents, sequences like *mea rabia* may have come to be pronounced as [mear#rabja]. W summarizes his proposal in these terms (p. 118):

> Thus, the strong word boundary, defined for the obstruents primarily according to [voice] and secondarily by syntactic doubling, could have been extended to postvocalic word-initial sonorants as lengthening, especially since voicing would not have been extended because the sonorants were already voiced.

Given W's proposal, one might be prompted to inquire into the feasibility of the chronology here; for example, how early is the stage of s.d. conceived to be, and would function words like Lat. *ad* and *et* still be C-final, to induce the doubling, at that stage?

Another way W explains for enhancing the frequency of word-initial /rr, ll, nn/ is related to the fact that /r/, /l/, and /n/ were permissible word-final Cs in Hispano-Romance, so cases like /r#r/ could easily arise across word boundaries (e.g., OSp. *fablar raudo* 'to speak rapidly'). Cases like this involving /r/ would be particularly common, he claims, given that infinitives end in /-r/. Again, it would be well here to consider the chronological stage at which this s.d. process is envisioned; it is more likely that at the presumably early stage when it might have occurred, infinitives had not yet undergone apocope and so would more likely still have ended in /-are, -ere, -ire/. In sum, W holds that these and other lexical items with word-final /r/ could have given s.d. 'the support it needed to achieve generalization to all word-initial /r/ phonemes', and he notes that if the obstruent strength pattern really did play a key role in the phenomenon of sonorant strengthening, /r/ undoubtedly was the first of the sonorants affected by this pattern extension, since it is the one sonorant that has been universally strengthened in Hispano-Romance. Although he admits the possibility that /l/ and /n/ may have become strengthened — in those languages/dialects that show strengthened variants — directly through adoption of the obstruent pattern, he regards it as more likely that word-initial variants like those in, say, Cat. *lluna* 'moon' or Leonese *ñadar* 'to swim', arose through analogy with the strengthened initial /r/.

The material in this chapter relates to W's thesis that phonological changes arise in response to surface phonetic variations, particularly in regard to his claim that the strength pattern had to arise at a stage during which allophonic voicing of medial /p,t,k/ was occurring without the simultaneous voicing of these obstruents in word-initial position. The phonological obstruent strength pattern thus arose out of the PERCEPTION of the surface allophonic voicing variations that speakers noted in the two different contexts; and then later on, it was the PERCEIVED length of word-initial obstruents in postvocalic contexts (and on that pattern, of word-initial sonorants as well) that played a key role, in W's conception, in the establishment of the phonological pattern of sonorant strengthening.

In general, the exposition throughout is clear and organized, and the text reads well. There are, however, a few points at which minor lapses might momentarily stymie the reader or evoke some reasonable doubt. On p. 17 in the context of discussion of Latin forms like LIGNA, SIGNA, W describes the nasal as being preceded by 'a velar.../g/'. There is, of course, some doubt that the Latin orthographic sequence GN should be taken at face value; an alternate reading /ᵊn/ has been proposed (cf. Lloyd 1984: 244). On p. 34 in his discussion of intrusive stops in Eng. words like *rinse* [rInts] and *warmth* [warmpθ], W describes the intrusive oral stop [t] in *rinse* as 'homorganic with the following fricative'. How then does one explain the labial [p] preceding the interdental [θ] in *warmth*? Rather it appears that the excrescent stops in these cases are homorganic with the preceding nasals. On p. 66 W gives the derivation PLAGA > Sp. *playa* 'beach' and on p. 67

PLAGA > Pg. *praia*, whereas on p. 60 he provides the derivation PLAGIA > It. *spiaggia* 'beach'. Despite the fact that both Lloyd (1984) and Williams (1962) give Lat. PLAGA as the source for the Hispano-Romance words for 'beach', I would rather favor the form PLAGIA, as Penny (1991: 70) gives, since the phonetic developments into the daughter languages are then much more straightforward, and the inconsistency with the derivation of the Italian form given is thus eliminated. On p. 68 W provides the derivation FLAGRARE > Pg. *cheirar* 'to smell'. A brief note here to explain the, at first sight, baffling developments involving the cluster liquids in this and the word FLAGRANTE (also on this page) would help to orient the reader better: V.L. FLAGRARE derives from earlier C.L. FRAGRARE by liquid dissimilation; later, the Portuguese-specific rhotacism process applies to V.L. FLAGRANTE > *fragrante*, thus bringing this reflex full-circle back to its original C.L. /fr/-shape. On p. 80 Ital. *maschio* is incorrectly glossed as 'skull' rather than 'male'. This appears to be merely a word-processing mixup of some sort, since the Italian word for 'skull' is *teschio*, a form illustrating the same Italian cluster which is under discussion in the passage. On p. 100 in the data set toward the middle of the page, the last two Latin examples RIVU and CANTAVI seem not really to belong in the grouping since they do not illustrate spirantization of original voiced occlusives. Finally, underlining or otherwise highlighting the segment/cluster of interest in the data lists would help in better focusing the reader's attention on the particular phonemes exemplifying the sound changes under discussion in the various passages.

A few sporadic errata were noted (p. 36, bottom of page: text should read 'replaces the [+low] of the low-mid /ɛ/', not /ø/, as the text has; p. 38, last line, par. 2: 'complete', not 'compete'; p. 103, middle of page: upper case for LUPU; p. 103: should the a# in [a#bégora] properly be la#?), but for the most part, the print and the overall text is clean and easy to read.

An important strength of this book, a work fairly short in terms of pages, though conceptually replete, lies in identifying and treating in depth and detail, with copious references to the work of other important Romance linguists, three select and specific, but complex and thought-provoking issues in Spanish and Portuguese diachronic phonology. In a sense, the work serves as a concentrated and valuable survey of the literature on these three issues. Throughout, the author shows a knack for asking good, probing questions and then implementing his investigation well by systematically laying out the various possibilities, scenarios, and hypotheses involved in the different lines of his search, carrying on a fascinating dialog with the many other researchers he cites in his work, and examining carefully the strengths and weaknesses of the various possible approaches to the issues under discussion, in terms of the supporting evidence available.

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